Statement
of
James H. Anthony
at the
September 26, 1983 Hearing
of the
Utah Department of Health's
Bureau of Air Quality

My name is James H. Anthony. I am Project Director for the Intermountain Power Project -- IPP. IPP is responsible for building the Intermountain Generating Station, the subject of this hearing today.

I appreciate your giving me the chance to appear today to present this statement. As you know, the Intermountain Power Project has submitted a detailed Position Paper and numerous technical reports demonstrating that the current emission limits for the two units at the Intermountain Generating Station reflect best available control technology -- BACT -- for those units. In my statement today, I will not try to go over all the materials that we have submitted thus far. Instead, I will try to cover what I believe are some of the most important parts of the extensive record in this matter.

I first want to emphasize the stringency of the emission standards that we are required to meet -- and will meet -- at the Intermountain Generating Station. Next, I want to comment on some of the conclusions reached thus far by the Department of Health in these proceedings. And, finally I want to respond to some of the issues that Mr. Young and others have raised in the last few months.

To begin, let me tell you about the standards that the Intermountain Generating Station is already required to meet -- and will meet. The standards are very tough, making the Intermountain Generating Station, one of the cleanest coal-fired power plants ever to be built.

Specifically, in 1980, when we received the state and federal air quality permits authorizing construction of the Intermountain Generating Station, we agreed in those permits to meet the most stringent power plant emission limitations in this country. Now, three years later, those limits are still among the most stringent in the country. The sulfur dioxide emission limit of 0.15 pounds of SO_2 per million Btu is the most stringent that can be met using the Utah coals that the Intermountain Power Project has contracted to purchase. The Intermountain Generating Station particulate matter limit of 0.02 pounds per million Btu also remains one of the most stringent particulate matter emission standards set for any power plant in this country and reflects the maximum degree of particulate matter reduction that can be achieved at the Intermountain Generating Station units. And the current NO_x emission limit that we are required to meet -- 0.55 pounds per million Btu -- remains the most stringent emission standard that any bituminous coal firing power plant in this country is required to meet. The Intermountain Power Project has also accepted very stringent emission monitoring and testing requirements to determine compliance with those emission limitations.

These stringent limits established the design criteria which governed the selection of the boilers, control equipment, and coal for the project. On-site construction of both units is well underway with hundreds of millions of dollars having already been expended in reliance on the 1980 limits. As a result of these irrevocable economic and physical commitments to control technology and fuel designed and guaranteed to meet the 1980 permit limits, imposition of more stringent control requirements now would disrupt construction and substantially delay completion of the project at tremendous cost.

Notwithstanding the reliance we have put on the very stringent limits established in 1980, the Department of Health is now "rereviewing" the emission limits for the project to determine whether those limits still represent BACT. There are several aspects of the BACT rereview that I am concerned about and want to mention today.

First, frankly, I cannot understand the <u>legal</u> basis for the BACT rereview. Since 1980 IPP has not made any changes in the project which, by any reasonable standard, could be considered to be of the magnitude to trigger a BACT rereview. In fact the only significant change at the project was a decision on March 31, 1983, to reduce that size of the project from four to two generating units, thus cutting potential emissions from the source almost in half.

Second, I cannot understand some of the technical conclusions that DOH appears to have reached, particularly as to the appropriate NO_x emission level for the two IPP units. IPP has submitted extensive technical information demonstrating that the current NO_x limit of 0.55 pounds per million Btu represents BACT for the IPP units. That information was prepared by KVB -- pioneers in the field of NO_x research and developers of various NO_x reduction techniques for industrial and power plant boilers. (KVB has done work for federal state and local government agencies as well as for industry.)

Despite all the information provided by KVB, DOH suggested in its background Engineering Review that the IPP units might be able to meet a lower NO_x limit -- one "between 0.50 and 0.55" pounds per million Btu. And in stories now appearing in the press, DOH representatives are reported as saying that they plan to "compromise" and set the NO_x emission limit lower than 0.55 pounds per million Btu.

To respond to such statements and suggestions, KVB has prepared yet another report which is being submitted today. This KVB report, together with the other evidence in the extensive record in this case, demonstrates that a NO_x limit lower than 0.55 pounds per million for the IPP units <u>cannot</u> be justified. We have had KVB investigate various NO_x control technologies suggested by the DOH; the evidence shows that those technologies either are not demonstrated or will not

ensure further emission reductions for a plant like IGS. We have had KVB investigate NO_x levels achieved by plants with boilers like the IGS boilers; the data provide no basis for concluding that the IGS boilers -- burning the coal now under contract and operating in a base load mode -- can achieve any emission limit lower than 0.55 pounds per million Btu. I urge DOH to review all the relevant information and believe that, if DOH does so, it will reach the same conclusions that I have just stated.

Finally, in my statement today, I want to respond to issues raised by Mr. Young and other persons and environmental groups who have commented in these proceedings. In particular, I want to address claims that IGS' NOx emissions will increase the acidity of precipitation in certain parts of the state and claims concerning the retrofit of certain NOx control technology -- selective catalytic reduction or SCR.

First, let me respond to the comments of the environmental groups suggesting that IGS NOx emissions will increase the acidity of precipitation in the geologically sensitive areas of the Wasatch Mountains. These areas of the Wasatch Mountins are 100 miles or more from IGS. A report that is in the record and that was prepared by an expert in this field, ERT's Dr. George Hidy, states that meteorological conditions and terrain are likely to prevent IGS NOx emissions from ever reaching the sensitive areas of the Wasatch Mountains much less affecting the low alkaline surface waters in the Mountains.

Moreover, even if such emissions were to reach the Mountains, their impact would be minimal. Snowpack, precipitation and water quality studies conducted in the Wasatch Mountains and summarized by Dr. Hidy indicate that, although the Salt Lake City and Provo metropolitan areas (which are relatively near the Mountains) have grown significantly since the 1950s, there is no evidence that increased NOx emissions from those cities' major mobile and stationary sources have caused any changes in the acidity or nitrate concentrations in the Wasatch Mountains. If such nearby major sources of NOx loadings have no measurable impact, then any increases in current NOx levels (in the range of 0.8 percent) due to the far distant IGS cannot be viewed as posing any significant threat of increased acidification.

Finally, let me talk about selective catalytic reduction -- or SCR -- the control technique that certain groups are calling for IPP to install. As is clear from technical reports prepared by NOx control experts at KVB, Inc., the SCR process has not been applied to any large power plant in the United States. While there have been applications in Japan, the process has <u>not</u> been demonstrated on any coal fired power plant similar to IGS. There is no experience on a baghouse equipped plant, and serious technical questions have been raised about reliable baghouse operations on a SCR equipped plant. Even more important, the catalyst poisons contained in Utah bituminous coals could preclude reliable SCR operation and

substantially reduce process availability. The SCR process has, therefore, not been developed to the point where, if applied to IPP, there is any certainty that it could achieve reliable, continuous reduction in NOx emissions or operate without jeopardizing other needed control equipment.

In any event, even if SCR could operate reliably without harmful side effects on other equipment, it would be extremely costly to retrofit SCR at IGS -- either now or some time after plant start-up. As the Black & Veatch report indicates, the cost of installing SCR is estimated to be $1.694 billion (in 1986 dollars) if retrofitted before commercial operation of IGS and $1.255 billion (in 1986 dollars) if retrofitted at a later time. In light of these tremendous costs, a directive to install SCR would destroy the economics of the project. The DOH, concurring in our cost estimates, has concluded that it would be unreasonable to require the retrofit of such technology at IGS. We agree.

In summary, the emission limits that we have agreed to meet are among the most stringent set for any coal-fired power plant in this country. We have spent a great deal of time, effort, and money designing pollution control equipment that will insure compliance with those very restrictive emission limits. We have made commitments to purchase that control equipment. Retrofitting technologies -- such as SCR -- would be unreasonably expensive. Equally important, no data have been presented, or exist to our knowledge, which justify the

imposition of any more stringent NOx emission limits at IGS. Finally, we believe and have submitted information to show that the plant, as designed and as it is now being built, will not adversely affect the environment.

We urge the Department of Health to review all the data carefully. We believe that if the Department does so, it will conclude that the current emission levels that the Intermountain Generating Station is required to meet are BACT.

Thank you again for giving me the time to present this statement.